



Minneapolis, Minnesota skyline.

## The Issue

Twice each year, billions of birds fly between wintering and breeding grounds, facing innumerable threats along the way. The majority of birds migrate at night, using the night sky to help them navigate. During the day, they rest and refuel, relying on green space, water and other necessary resources.

Artificial lights and skyglow around buildings can be fatal to migrating birds. Some are casualties of nighttime collisions with windows and walls. Others circle in confusion until dawn, when they land and are subject to other urban threats. This issue impacts hundreds of

species, including priority species like the Wood Thrush, Golden-winged Warbler, and Seaside Sparrow. Lights Out is a national effort to reduce this problem by working with building owners, managers, and residents to turn off unnecessary lights during periods when they are most likely to affect migrating or nocturnal birds.

## The Impact

On-going research in Chicago, where over 30,000 birds collided with a single building over a 20-year period, is documenting the magnitude of the problem as well as an important part of the solution – turning out unnecessary

lights reduced bird mortality at that problematic building by over 80%. Dousing lights has the added benefit of reducing energy use and saving money.

## Benefits

- Minimize unnecessary bird deaths
- Save money by reducing energy usage
- Support your organization's sustainability goals
- Receive recognition for sustainable, bird-friendly practices
- Be recognized as a regional and national leader in sustainability and bird conservation

## Solutions

Audubon is pioneering innovative approaches to make buildings safer for birds.

- Turn off exterior decorative lighting
- Extinguish spot and flood-lights
- Substitute strobe lighting where possible
- Reduce lobby and atrium lighting wherever possible
- Turn off interior lighting especially on upper floors
- Substitute task and area lighting for workers staying late or pull window coverings
- Down-shield exterior lighting to eliminate all light directed upward and horizontal glare
- Install motion sensors and automatic controls wherever possible
- When converting to new lighting carefully assess quality and quantity of light needed, avoiding over-lighting with newer, brighter technology

While all unnecessary lighting should be reduced, the exterior decorative lights and lighted upper stories are a priority as they have the ability to disorient night migrating birds, especially in inclement weather.

## Timing

Light induced collisions can occur at any time of the year but they tend to peak during periods when birds are migrating through an area or, in some locations, when certain nocturnal species are present. Because migrating and nocturnal birds can be active throughout the night lighting should be reduced or turned off for as much of the nighttime as possible during peak collision periods.



# REFLECTIVE SURFACES

Bird stickers protect hummingbirds from window collisions at Mississippi's Strawberry Plains Audubon Center.

## The Issue

Birds face innumerable threats in our human built environment and our glass surfaces are one of the biggest.

During daylight hours, birds collide with reflective surfaces when they stop to feed or rest, when avoiding a predator or flying from tree to tree. Shiny glass exteriors, internal plants near windows, glass corners, and greenery close to buildings can all be deadly as birds are unable to distinguish reflection from open flyway. For every collision victim found, three more typically go unseen, flying out of sight before falling or being carried away by predators.

## The Impact

Window collisions are one of the leading direct human causes of bird mortality. A 2014 study by the US Fish and Wildlife Service and the Smithsonian Institution estimated that between 365 and 988 million birds are killed annually by building collisions in the U.S.

## Benefits

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## Solutions

People 'see' glass because we understand buildings. Birds need strong clues on or around glass to warn them that it's there.

### Reducing reflective surface collisions

- Create patterns on reflective glass surfaces (quantity and spacing matter: multiple markings 2 to 4 inches apart are recommended)
- Install external screens on windows
- Close blinds or curtains
- Move plants away from windows
- Place bird feeders directly on windows

### Timing

Bird-building collisions can happen at any time of the day and year but tend to increase during migration and when young birds start flying. Therefore, the most crucial times for these measures are during spring and fall migration and in the breeding season in your area.